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THE

EIGHTEENTH ANNUAL REPORT

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OF THE

BOARD OF DIRECTORS

OF THE

ZOOLOGICAL SOCIETY

OF PHILADELPHIA.

(INCORPORATED MARCH 21ST, 1859.)

READ AT THE ANNUAL MEETING OF THE MEMBERS AND LOAN-HOLDERS OF THE SOCIETY.

APRIL 24th, 1890.

PHILADELPHIA:

ALLEN, LANE & SCOTT'S PRINTING HOUSE,
Nos. 229-231-233 South Fifth Street.

1890.



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THE
ZOOLOGICAL SOCIETY OF PHILADELPHIA.
OFFICE, FAIRMOUNT PARK.

OFFICERS FOR THE YEAR ENDING APRIL 23d, 1891.

PRESIDENT,

CHARLES PLATT.

VICE-PRESIDENTS:

GEORGE W. CHILDS, J. VAUGHAN MERRICK.

CORRESPONDING SECRETARY,

PROF. HENRY C. CHAPMAN.

RECORDING SECRETARY,

THOMAS HOCKLEY.

TREASURER,

WILLIAM HACKER.

DIRECTORS:

WILLIAM H. MERRICK,	GALLOWAY C. MORRIS,
HENRY C. GIBSON,	HENRY T. COATES,
ISAAC J. WISTAR,	FRANCIS W. LEWIS, M. D.,
CHARLES W. TROTTER,	CHARLES M. LEA,
PROF. JOSEPH LEIDY,	CHRISTIAN C. FEBIGER,
FRANCIS T. FASSITT,	WM. L. SPRINGS.

ACTUARY,

CHARLES L. JEFFERSON.

SUPERINTENDENT OF THE GARDEN,

ARTHUR ERWIN BROWN.

SOLICITORS:

SAMUEL WAGNER, WM. W. MONTGOMERY.

REPORT
OF THE
BOARD OF DIRECTORS.

PHILADELPHIA, April 24th, 1890.

THE Board of Directors of the Zoological Society of Philadelphia submit to the members and loan-certificate holders this their Eighteenth Annual Report of the business and operations of the Society from 1st of March, 1889, to 1st of March, 1890.

MEMBERS.

The number of members on the 1st of March, 1890, was—

Annual members	450
Life members	1,156
Corresponding members	7
Honorary members	13
Perpetual members	257
Total members (exclusive of loan-holders)	1,883

The Board of Directors again call the attention of all those interested not only in the welfare but in the existence of the Garden, to the continued efforts made to retire the loan of the Society. Voluntary gifts of this loan, or its conversion into life and perpetual memberships, would remove from the Society all probable danger of financial

embarrassment, such as overtook it in the year 1885. The cancellation of the loan, which can only be done when the whole is secured, would increase the annual revenue of the Society about \$4000, otherwise lost by the yearly issue of admission tickets due the loan-holders. As stated in a circular sent out by the Board of Directors in 1887, "One of the most efficient plans for permanent relief would be the possession of the existing loan of the Society."

The necessity for the erection of a new monkey-house has become so urgent that the Board has determined to prepare plans for the building. The present monkey-house is totally unsuitable for its purpose, being dangerous to the lives of the animals and unfit for visitors to enter.

The death of Mr. Frederic Graff, the President of the Society, has occurred since the publication of the last annual report. At a meeting of the Board, held April 3d, 1890, the following minute was adopted:—

"Mr. Graff was the only remaining member of the Board who had been connected with the Society from its organization more than thirty years ago, and who has retained an active interest in its affairs since the period when, under a revival of public interest, the present Garden was laid out.

"To his clear judgment and intelligent appreciation of the objects which should be held in view in the establishment and maintenance of a Zoological Garden, is due much of the success which has been attained. The Directors feel that it is difficult to overestimate the advantage which has been derived from his wise counsel, as well as from his zealous interest and attention to its affairs, especially during the time he has occupied the position of President.

"Beyond this acknowledgment of his public services to the Society, the Directors feel that they have been deprived of a friend, always kind, considerate, and courteous; and that any words of eulogy or sorrow are inadequate to express their sense of personal loss.

"They tender to his widow their most respectful sympathy in her bereavement."

The following is a report in detail of the admissions and receipts for the year :—

Adults (paying twenty-five cents at gates)	117,028
Children (paying ten cents at gates)	33,755
Members (including Life and Annual Members, loan-holders' annual, and complimentary annual tickets)	3,373
Loan-holders' single tickets	38,611
Free admissions (charitable institutions, donors' tickets, &c.)	2,431
Coupon tickets	3,353
Excursion tickets	17,052

	215,603

*Monthly Record of Visitors for 1889-90, with corresponding
account for 1888-89.*

MONTH.	1888-89.	1889-90.	COMPARISON.
March	4,461	11,179	Increase . . 6,718
April	14,213	16,759	" . . 2,546
May	18,211	21,541	" . . 3,330
June	19,746	22,443	" . . 2,697
July	29,353	25,299	Decrease . . 4,054
August	28,754	39,240	Increase . . 10,486
September	26,528	27,615	" . . 1,087
October	13,552	16,272	" . . 2,720
November	11,389	10,946	Decrease . . 443
December	10,821	10,544	" . . 277
January	8,029	6,919	" . . 1,110
February	5,893	6,846	Increase . . 953
	190,950	215,603	Increase . . 24,653

Average daily admissions	591
The greatest number of visitors on any one day was on Sunday, August 18th	3,827

Monthly Record of Receipts from Admission for 1889-90, with corresponding account for 1888-89.

MONTH.	1888-89.	1889-90.	COMPARISON.
March . . .	\$812 54	\$2,105 98	Increase . \$1,293 44
April . . .	2,520 32	2,974 15	" . 453 83
May . . .	3,079 86	3,679 47	" . 599 61
June . . .	3,141 87	3,661 66	" . 519 79
July . . .	4,848 36	3,936 55	Decrease . 911 81
August . .	4,265 84	5,970 72	Increase . 1,704 88
September .	4,274 68	4,579 81	" . 305 13
October . .	2,268 36	2,766 49	" . 498 13
November .	1,925 98	1,808 92	Decrease . 117 06
December .	1,968 55	1,763 62	" . 204 93
January . .	1,466 34	1,264 79	" . 201 55
February . .	1,088 59	1,240 27	Increase . 151 68
	\$31,661 29	\$35,752 43	Increase . \$4,091 14

Average daily receipts from admissions \$97 95
 The largest amount of receipts at the gates on any one day was on Sunday, September 29th . . . 668 43

Total Receipts on the several days of the week, and their respective averages, for 1889-90.

RANK.	DAYS.	TOTAL RECEIPTS.	AVERAGE.
1	Sunday	\$16,877 47	\$324 56
2	Thursday	4,053 16	77 95
3	Saturday	3,593 49	69 11
4	Wednesday	2,938 10	56 50
5	Friday	2,898 35	54 69
6	Monday	2,717 29	52 26
7	Tuesday	2,674 57	51 43
		\$35,752 43	

The financial condition of the Society is fully shown in the Treasurer's statement, Appendix A, and the report of the General Superintendent, Appendix B, shows the present condition of the menagerie and the details attending the operation of the Garden during the year.

The Board desires to express its thanks for the many donations of animals which have been received.

By order of the Board,

THOMAS HOCKLEY,
Secretary.

INCOME AND EXPENDITURES.

For the fiscal year ending March 1st, 1890.

INCOME.

Members' fees and dues	\$1,155 00
Admission receipts	35,752 43
Rents at Garden	1,200 00
Interest, discount, &c.	843 60
Sundry receipts	643 68
Citizens' relief fund	1,000 00
	<hr/>
	<u>\$40,594 71</u>

EXPENDITURES.

(Exclusive of Permanent Improvements, &c.)

Salaries	\$18,115 85
Office expenses	219 44
General expenses	<hr/> 16,609 82
	<hr/> <u>\$34,945 11</u>
Estimated loss on animals	4,142 30
Depreciation on permanent improvements	<hr/> 1,753 00
	<hr/> <u>\$40,840 41</u>
Balance to debit of profit and loss for year	<hr/> 245 70
	<hr/> <u>\$40,594 71</u>

CAPITAL.

Receipts and expenditures for the year ending March 1st, 1890.

RECEIPTS.

Legacy, estate of John L. Neill, deceased	\$3,400 00
Add the following amounts charged to profit and loss :—	
Estimated loss on animals	4,142 30
Depreciation on permanent improvements	<hr/> 1,753 00
	<hr/> <u>\$9,295 30</u>

EXPENDITURES.

Horticulture and animals as per items in Treasurer's statement (Appendix A)	\$3,947 95
Balance (being excess of investments over receipts of capital and provided from profit and loss)	<hr/> 5,347 35
	<hr/> <u>\$9,295 30</u>

APPENDIX A.

TREASURER'S STATEMENT.

From March 1st, 1889, to March 1st, 1890.

	Dr.
To Balance March 1st, 1889	\$4,112 14
“ Collateral loan	5,000 00
“ Legacy, estate of John L. Neill, deceased	3,400 00
“ Members' fees and dues	\$1,155 00
“ Admission receipts	35,752 43
“ Rents at Garden	1,200 00
“ Sundry receipts	643 68
“ Interest, discount, &c.	843 60
“ Citizens' relief fund	1,000 00
Transferred to credit of profit and loss	40,594 71
	\$53,106 85

Cr.

By warrants paid for:—

Salaries and wages	\$18,115 85
Office expenses	219 44
Subsistence	6,948 48
Advertising	2,816 61
Insurance	218 25
Fuel and lights	1,045 25
Printing	391 75
Expressage	147 35
Repairs, &c.	1,940 98
Extra labor and jobbing	1,405 85
Hardware and tools	208 82
Lumber	176 41
Water-rent	150 00
Uniforms and equipments	219 25
Guide-book account (balance)	239 50
Commissions on collections	139 90
Sundries	561 42
Transferred to debit of profit and loss	\$34,945 11
Purchase of animals	\$3,884 30
Horticulture	63 65
Investment account	3,400 00
	7,347 95
Collateral loan	5,000 00
Balance on hand March 1st, 1890	5,813 79
	\$53,106 85

WILLIAM HACKER, *Treasurer.*

Examined and found correct.

FRANCIS T. FASSITT,

FRANCIS W. LEWIS, M. D.,

Committee on Audit.

BALANCE-SHEET.

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Zoological Society, March 1st, 1890.

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Cash	\$5,813.79	Loan	\$319,900.00
Collateral loan	5,000.00	Donations	11,865.74
Investment account	17,500.00	Life memberships	9,835.00
Water-supply and drains	11,583.37	Permanent fund	12,400.00
Animal account	47,318.00	Profit and loss	86,642.04
Eagle aviary	2,744.19		
Bear pits	6,618.48		
Monkey house	7,926.80		
Cages	4,252.94		
Fencing	3,843.75		
Vulcanite walks	33,156.96		
Deer parks and enclosures	5,056.20		
Prairie-log village	890.64		
Gate houses	11,705.21		
Buffalo house	1,494.15		
Horticulture	8,046.50		
Lake	10,447.50		
Walks, roads, and grading	64,924.96		
Houses for sundry animals	6,525.71		
Carnivora house	55,638.48		
Greenhouses	4,622.47		
Barn	3,557.12		
Elephant house	40,672.08		
Seal ponds	4,749.75		
Carriage sheds	3,681.11		
Restaurant	14,341.96		
Settees and chairs	2,124.00		
Photograph stand	699.20		
New aviary	12,525.75		
Deer house	20,624.71		
Reptile house	7,000.00		
Camel house	886.82		
Small mammal house	1,659.00		
Music stand	1,583.65		
Permanent enclosure	9,150.84		
Yard and store-room	2,203.04		
			\$440,632.78

APPENDIX B.

To the Board of Directors of the Zoological Society of Philadelphia:

GENTLEMEN:—I have the honor to submit to you my report for the year ending on the 28th of February, 1890.

At that date the animals comprised in the collection numbered as follows:—

337 Mammals	\$41,057 00
458 Birds	5,154 00
241 Reptiles	851 00
33 Amphibians	256 00
<hr/>	<hr/>
1,069	\$47,318 00

The additions for the year from all sources were:—

MAMMALS:—

Purchased	96
Presented	80
Bred	47
	<hr/> 223

BIRDS:—

Purchased	120
Presented	80
Bred	18
	<hr/> 218

REPTILES:—

Purchased	368
Presented	162
Bred	3
	<hr/> 533

AMPHIBIANS:—

Purchased	90
Presented	39
	<hr/> 129
	<hr/> 1,103

The number of specimens received, which had not previously been represented in the collection, has been greater than usual. A full list of them is given below, with brief notes on some of the rarer species.

MAMMALS:—

1. Hocheur monkey (*Cercopithecus nictitans*), West Africa.
2. Tamarin marmoset (*Midas ursulus*), Brazil.
3. Caracal (*Felis caracal*), southern Asia and Africa. This small and handsome species is by no means common in menageries in this country, and is a valuable addition to the series of cats.
4. Black-backed jackal (*Canis mesomelas*), South Africa.
5. Prairie fox (*Canis macrourus*), western United States. Several specimens of the large western red fox were received on the 25th June, having been captured at an altitude of ten thousand feet in the Spanish Peaks, near Trinidad, Col. A comparison with specimens of the common species (*C. vulpes fulvus*) in the adjoining enclosure would seem to render it doubtful if the form is entitled to rank even as a variety.
6. Grison (*Galictis vittata*), South America.
7. Sloth bear (*Melursus labiotus*), India. Though well known, this species has never before been represented in the Garden, and as the specimen purchased on the 18th July is a very fine one, it is a most welcome addition.
8. Southern gray squirrel (*Sciurus carolinensis carolinensis*), southern United States.
9. Yuma spermophile (*Spermophilus tereticaudatus*), southwestern United States. Four specimens of this rare and interesting species were presented in July by Mr. Herbert Brown, of Tucson, Arizona.
10. Azara's opossum (*Didelphys azarae*), South America.
11. A specimen of the great kangaroo from western Australia, purchased June 4th. This is the form usually recognized as *Macropus ocydromus*, Gould. It is difficult, however, to see wherein it differs from the common species (*M. giganteus*), with which it has been placed, and, in fact,

Mr. Oldfield Thomas, the latest authority on the group, fails to recognize a distinction.

BIRDS:—

12. American redstart (*Setophaga ruticilla*), eastern United States.
13. Greater tit (*Parus major*), Europe.
14. Red-eared bulbul (*Pycnonotus jocosus*), India and China.
15. Black bulbul (*Pycnonotus pygæus*), India and Ceylon.
16. Magpie tanager (*Cissopis leverianus*), South America. A specimen of this rare species was purchased from a dealer in New York, in January, 1890, and at the same time another tanager, which I have not yet been able to identify; it is, perhaps, a young female of *Tanagra palmarum*.
17. Masked weaver (*Hyphantornis larvatus*), Abyssinia.
18. Black-crested cardinal (*Gubernatrix cristata*), Argentine Republic.
19. White-fronted finch (*Spermophilida lineola*), Guiana to Brazil.
20. Mountain linnet (*Linota flavirostris*), Europe.
21. Yellow hangnest (*Cassicus persicus*), South America. A pair of these fine troupials, rarely seen in captivity, were purchased in June from a dealer.
22. Chinese mynah (*Acridotheres cristatellus*), China.
23. Green jay (*Xanthura luxuosa*), eastern Mexico.
24. Great spotted woodpecker (*Picus major*), Europe.
25. Black-billed cuckoo (*Coccyzus erythrophthalmus*), eastern North America.
26. Grand eclectus (*Eclectus grandis*), Moluccas.
27. West African love-bird (*Agapornis pullaria*), West Africa.
28. Many-colored parrakeet (*Psephotus multicolor*), Australia. One of the rarer and most striking of the brilliant parrakeets of the Australian region.
29. Yellow-bellied parrakeet (*Platycercus flavigularis*), Tasmania.
30. Blue-crowned conure (*Conurus haemorrhouus*), Brazil.
31. Long-tailed conure (*Conurus euops*), West Indies.

32. Blue-fronted amazon (*Chrysotis aestiva*), South America.
 33. Yellow-shouldered amazon (*Chrysotis ochroptera*), South America.
 34. Great eagle-owl (*Bubo ignavus*), Europe and northern Asia. Three specimens of this fine species, which has rarely been brought to the United States, were among a small collection of birds and reptiles brought from Europe for the Society by Mr. F. Moesler, a well-known bird-dealer of Philadelphia.
 35. Mexican screech-owl (*Scops asio trichopsis*), Mexico and Arizona. This rare bird was contributed by Mr. Herbert Brown, of Tucson, but unfortunately did not long survive its journey.
 36. Wood owl (*Syrnium aluco*), Europe.
 37. Spectacled owl (*Syrnium perspicillatum*), Mexico to Brazil. One young specimen, from Brazil, was presented in December by Mr. Herman Reiche, of New York.
 38. Common partridge (*Perdix cinerea*), Europe and northern Africa.
 39. Short-crested quail (*Eupsychortex parvirostratus*), South America. A rare species from Guiana, purchased in May.
 40. Barbary partridge (*Cuccabis petrosus*), North Africa.
 41. Abyssinian guinea-fowl (*Numida ptilorhyncha*), Abyssinia.
 42. Black-faced ibis (*Theristicus caudatus*), South America.

REPTILES:—

43. Black tortoise (*Testudo carbonaria*), South America. Two specimens purchased during the summer, together with several of the closely-related and, perhaps, identical *T. tabulata*.
 44. Yellow-bellied terrapin (*Pseudemys scabra*); red-eared terrapin (*P. elegans*); Troost's terrapin (*P. troosti*); Mobile terrapin (*P. mobilensis*). Specimens belonging to the above species were found in several lots of North American turtles purchased during the season, the three former being among the least common forms. The red-eared and Troost's are of considerable rarity.
 45. Alligator snapping-turtle (*Macrochelys lacertina*), Uni-

ted States. This large turtle, while common to the streams flowing into the Gulf of Mexico, has rarely been exhibited in the North. Three specimens of large size were procured from New Orleans, and have attracted much notice in the fountain basin in the new Reptile House.

46. Spiny soft-shelled turtle (*Aspidonectes spinifer*), United States. One specimen. Captured in Penhawkens creek, New Jersey, and presented by Mr. J. Wallace.

47. Punctated gecko (*Sphaerodactylus punctatissimus*), Cuba. This interesting little lizard was presented by Mr. E. Metelman, of Philadelphia, having been found in a bundle of plants which were shipped to him from Havana..

48. Chamæleon-like lizard (*Chamæolis chamæleontides*), Cuba. Few inmates of the Reptile House have attracted more notice from their extraordinary and grotesque form than the two specimens of this rare species, purchased in August.

49. Equestrian lizard (*Anolis equestris*), Cuba.

50. Sagra's lizard (*Anolis sagræ*), Cuba and eastern Central America. Several specimens of this species were found among a number of the common chamælon lizards which came in August from Cuba. Among them are also several others, which it is not possible to determine with certainty while in a living state, but which appear to be *Anolis lucius*.

51. Spiny lizard (*Sceloporus spinosus*), Mexico and southwestern United States. One specimen presented by Mr. Colin Cameron, San Rafael, Arizona.

52. Regal horned-lizard (*Phrynosoma regale*), Arizona. One of the phrynosomas rarely seen in living collections. Procured at Tempe, A. T., and donated by Prof. C. S. Dolley, Biological School, University of Pennsylvania.

53. Spotted monitor (*Varanus varius*), Australia.

54. Variegated teguixin (*Tupinambis teguixin*), South America.

55. Stump-tailed lizard (*Trachysaurus rugosus*), Australia.

56. Basilisk chamæleon (*Chamæleon basiliscus*), Africa. Four young specimens of this species were among the collection brought in September by Mr. Moesler.

57. Leconte's snake (*Rhinochilis lecontei*), Arizona. One

specimen. Presented by Mr. Herbert Brown, whose indefatigable energy has enriched the collection by many rare species from the Arizonan district.

58. Osceola's snake (*Osceola clapoidea*), southeastern United States.

59. Worm snake (*Carphophiops amarus*), eastern United States.

60. Helen's snake (*C. helena*), central and southern United States.

61. Virginia's snake (*Virginia valeria*), eastern United States.

62. Irwin's snake (*Hypsiglena ochrorhyncha chlorophaea*), Arizona. One specimen. Presented by Mr. Herbert Brown.

63. Angulated snake (*Dromicus angulifer*), West Indies. Several snakes belonging to the genus *Dromicus*, received July 4th, from the Isle of Pines, have been referred with some hesitation to the above variable species, with which they agree closely in form and scutellation. All of the specimens received, however, present color-markings of so decided a character that I am disposed to believe that they may prove to be a distinct species.

64. Four-rayed snake (*Elaphis quatterradiatus*), Europe.

65. Esculapian snake (*Coluber æsculapii*), Europe.

66. Four-lined snake (*Coluber quadrilineatus*), Europe. The one specimen of this species received was of the spotted variety (*leopardinus*).

67. Common snake (*Tropidonotus natrix*), Europe.

68. Marcy's garter snake (*Eutænia marciana*), Texas to California. One specimen of this beautiful snake—one of the largest of the genus—presented by Mr. H. Brown.

69. Black-sided garter snake (*Eutænia nigrolateris*), Arizona. A *Eutænia* received from Tucson, Ariz., on the 23d of September, through the kindness of Mr. Herbert Brown, on examination proved to belong to a well-marked and previously unknown species. It was described by me, under the above name, in the Proceedings of the Academy of Natural Sciences of Philadelphia, 1889, page 421.

70. Black hog-nosed snake (*Heterodon platyrhinos niger*), United States. Several specimens received from Florida

appear to be readily distinguishable from wholly black individuals of *H. platyrhinos atmodes*.

AMPHIBIANS :—

71. Wood-frog (*Rana silvatica*), Canada and northeastern United States.
72. Squirrel tree-frog (*Hyla squirella*), southeastern United States.
73. Brown salamander (*Plethodon cinereus cinereus*), eastern United States.
74. Slimy salamander (*Plethodon glutinosus*), eastern United States.

Other valuable additions were five sirens (*Siren lacertina*), presented by Dr. G. E. Manigault, of Charleston, S. C.; a female Dorcas gazelle (*Gazella dorcas*), which was imported to mate the male *G. subgutturosa* previously in the collection, but which, on arrival, proved to be of the former species; three Gillespie's hair seals (*Zalophus californianus*), a male and female, with a young male born five days previous to arrival at the Garden; a crab-eating fox (*Canis cancrivorus*) from Demerara, and three Richardson's spermophiles (*S. richardsoni*) from Dakota, presented by Mr. Frank J. Thompson, of New York; two Agassiz' tortoises (*Xerobates agassizi*), a second specimen of the horse-snake (*Chilomeniscus ehippicus*), a number of Gila monsters (*Heloderma suspectum*) and Arizona rattlesnakes (*C. adamanteus atrox*), presented by Mr. Herbert Brown; a specimen of the cock of the rock (*Rupicola crocea*), from South America; a second specimen of the rare iguana from the Isle of Pines (*Cyclura nubila*); two kusimanse (*Crossarchus obscurus*), one of the least common of the viverrine carnivores from West Africa; a darter or water turkey (*Plotus anhinga*), from South America, all of which were procured by purchase, and a king lory (*Aprosmictus scapulatus*), presented by Mrs. Scott, of Philadelphia—being the first specimen of this splendid parakeet which has been in the possession of the Society for a number of years.

The following animals were bred in the Garden :—

- 3 Lions (*Felis leo*).
- 1 Leopard (*Felis pardus*), 6th November.

- 6 Prairie Wolves (*Canis latrans*), 23d April and 1st May.
 1 Black Bear (*Ursus americanus*), 30th January.
 10 Prairie Dogs (*Cynomys ludovicianus*), May.
 2 Beaver (*Castor fiber canadensis*), July.
 2 Zebras (*Bos indicus*), 9th March and 5th August.
 2 Bison (*Bison americanus*), 1st May and 7th June.
 1 Indian Buffalo (*Bubelus buffelus*), 20th September.
 1 Indian Antelope (*Antilope cervicapra*), 1st August.
 2 Hog Deer (*Cervus porcinus*), 21st April and 13th February.
 3 Common Deer (*Cariacus virginianus*), 27th April and 15th June.
 1 Fallow Deer (*Cervus dama*), 5th July.
 1 American Elk (*Cervus canadensis*), 30th June.
 1 Red Kangaroo (*Macropus rufus*), 4th July.
 1 Kangaroo; hybrid between *Halmaturus derbianus* ♂ and
 H. dorsalis ♀, 20th May.
 1 Brush-tailed Kangaroo (*Petrogale pencilata*), 23d January.
 9 Common Opossums (*Didelphys virginiana*), 10th July.
 1 Zebra Finch (*Estrelda subflava*), 9th June.
 3 Peafowl (*Pavo cristata*), 7th June.
 7 Egyptian Geese (*Chenalopex ægyptiaca*), 24th May and
 3d October.
 7 Red-headed Ducks (*Fuligula ferina americana*), 3d July.
 3 King Snakes (*Ophibolus getulus*), 3d November.

The actual loss by death has been below the average, a considerable portion of the amount so charged being the customary depreciation in value, of the older animals in the collection.

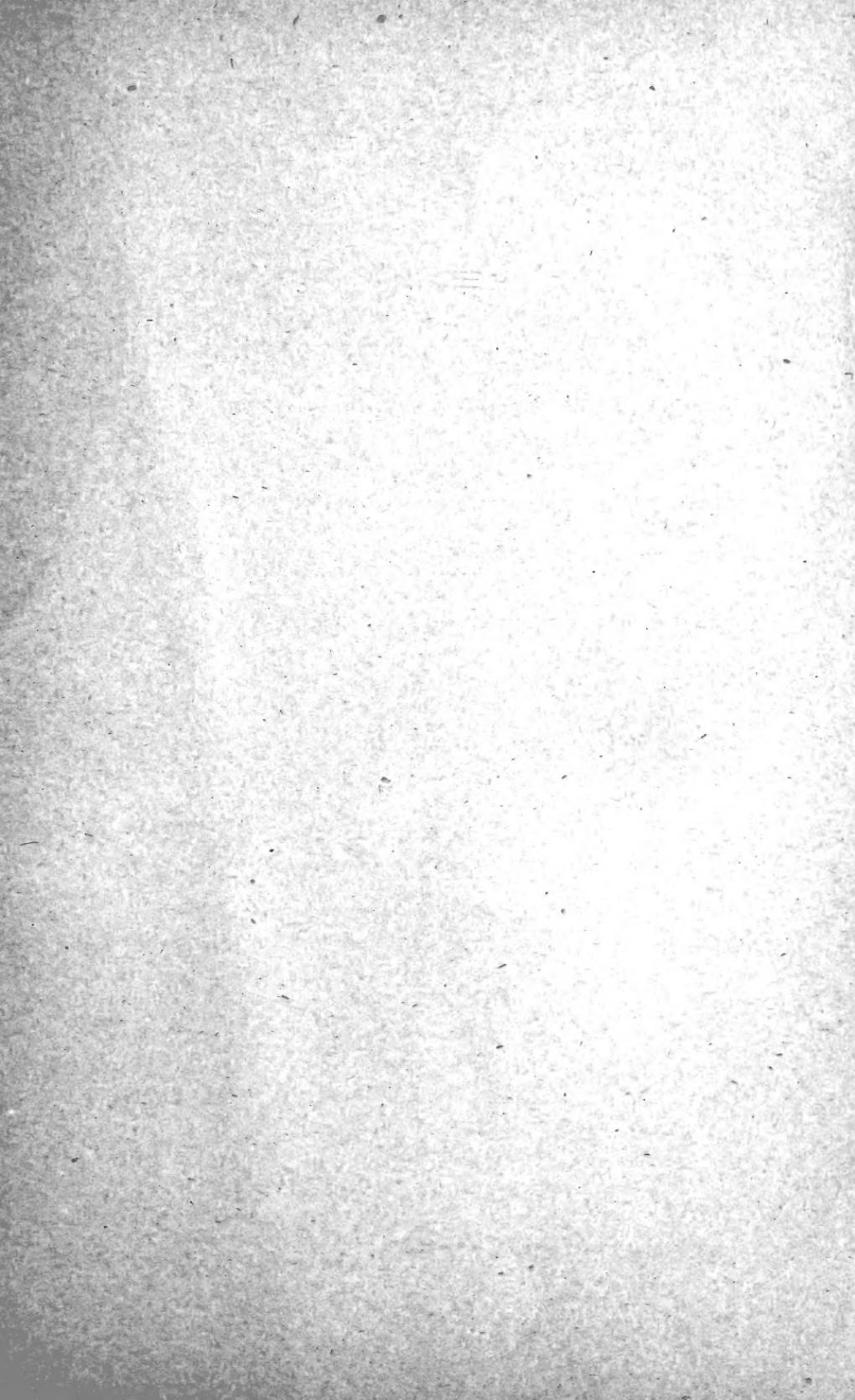
No new work has been undertaken during the year, the only expenditures for labor, outside of the regular Garden force, being for such repairs as were required for the proper protection of buildings and enclosures.

Respectfully,

ARTHUR ERWIN BROWN,

General Superintendent.

ZOOLOGICAL GARDEN, 1st March, 1890.



MCZ ERNST MAYR LIBRARY



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